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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,352	10/21/2003	Kazuhiko Ueda	9281-4681	4252

7590 05/26/2005  
Brinks Hofer Gilson & Lione  
P.O. Box 10395  
Chicago, IL 60610

EXAMINER
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FENTY, JESSE A

ART UNIT	PAPER NUMBER
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2815

DATE MAILED: 05/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/690,352

Applicant(s)

UEDA, KAZUHIKO

Examiner

Jesse A. Fenty

Art Unit

2815

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 4-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

In the Final Rejection mailed 03/21/05, the Examiner indicated the allowability of pending claims 4-6. However, upon further consideration and search, relevant prior art was found that anticipates the instant claims. A Non-Final rejection based on that prior art follows.

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 4 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Saenger et al. (U.S. Patent No. 5,712,759).

In re claim 4, Saenger (esp. Fig. 1) discloses a semiconductor device, comprising:  
an insulative substrate (102) having a via hole filled with a conductive material (104, 120);  
a lower electrode (110);  
a dielectric layer (108); and  
an upper electrode (114);  
wherein the lower electrode (110) connects to an end fact of the conductive material in an area not having a dielectric layer; and  
the dielectric layer is shaped like a ring (column 2, lines 56-58) to surround the via hole.

The limitation, “wherein ... are successively deposited ... substrate” refers to the process for making this product and does not further define the structure of the claimed invention and therefore is not given patentable weight in this product claim.

In re claim 5, Saenger disclose the device of claim 4, wherein an area between the dielectric layer and the via hole is ring shaped (column 2, lines 56-58).

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Saenger as applied to claim 4 above, and further in view of Hagerup (U.S. Patent No. 6,477,054 B1).

In re claim 6, Saenger discloses the device of claim 4, but does not expressly disclose the substrate comprising a low-temperature sintered ceramic. Hagerup discloses a low temperature co-fired (sintered) ceramic substrate with vias (40) and adjoining capacitor. It would have been obvious for one of ordinary skill in the art at the time of the invention to use the capacitor structure of Saenger in the substrate design disclosed by Hagerup for the purpose, for example, of enhancing the function of the device by releasing heat more effectively and connecting to other device components (Hagerup; column 2, lines 1-12).

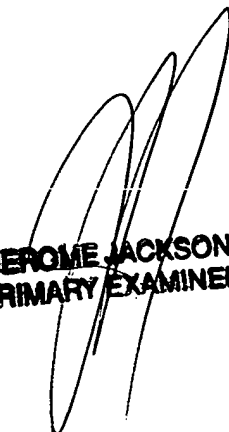
*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jesse A. Fenty whose telephone number is 571-272-1729. The examiner can normally be reached on 5/4-9 1st Fri. Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on 571-272-1664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jesse A. Fenty  
Examiner  
Art Unit 2815

  
**JEROME JACKSON**  
**PRIMARY EXAMINER**